

Northwest Atlantic



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Peculiarities of Recruitment to Herring Stocks in the
Northwest Atlantic as Exemplified by the Strong 1970 Year Classes

by

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The Northwest Atlantic is the habitat of numerous herring populations of great commercial importance. Among these, the herring stock of the Georges Bank and adjacent waters is the most abundant. The abundance of this stock year classes is subject to considerable fluctuations. Three strong herring year classes (1960, 1961 and 1970) of this stock were observed over the 1962 to 1980 period.

Considerable efforts have been made by the USA, USSR and Canada scientists and within the framework of the ICNAF International Program to investigate the factors governing the appearance of strong or poor year classes. However no definite conclusions were achieved.

During detailed observations on the efficiency of spawning of the Georges Bank herring according to the ICNAF Program, there appeared only one strong 1970 year class. The young fish of this year class was found in the first half of 1972 over a vast shelf area from Nova Scotia to Long Island. It is worth noting that the young fish at the age of 1 and 2 did not occur in that area either before or later. It should be also mentioned that in June 1971, small numbers of the young Georges Bank herring were reported from the south-western part of the Bank. Taking that the shelf current

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had a general south-western orientation, it can be inferred that the 1970 year class resulted from the spawning of herring populations off Nova Scotia and even in the St. Lawrence Gulf. Thus the herring stock units on Georges Bank, Nova Scotia and Banquereau Bank are interrelated and may be recruited by the young fish from neighbouring stocks.